# Virginia Title V Operating Permit

Until such time as this permit is reopened and revised, modified, revoked, terminated or expires, the permittee is authorized to operate in accordance with the terms and conditions contained herein. This permit is issued under the authority of Title 10.1, Chapter 13, §10.1-1322 of the Air Pollution Control Law of Virginia. This permit is issued consistent with the Administrative Process Act, and 9 VAC 5-80-50 through 9 VAC 5-80-305 of the State Air Pollution Control Board Regulations for the Control and Abatement of Air Pollution of the Commonwealth of Virginia.

Authorization to operate a Stationary Source of Air Pollution as described in this permit is hereby granted to:

| | |
|---|---|
| Permittee Name: | PolyOne Engineered Films, Inc. |
| Facility Name: | PolyOne Engineered Films, Inc. |
| Facility Location: | 1944 Valley Avenue<br>Winchester, Virginia |
| Registration Number: | 80333 |
| Permit Number: | VRO80333 |

_____
Effective Date

_____
Expiration Date

_____
Director, Department of Environmental Quality

_____
Signature Date

Table of Contents, 2 pages
Permit Conditions, 52 pages

Compliance Assurance Monitoring (CAM) Plan
40 CFR 63 Subpart KK

# Table of Contents

# I. Facility Information

**Permittee**
PolyOne Engineered Films, Inc.
Post Office Box 3510
Winchester, Virginia 22604

**Responsible Official**
Denny Bromley
Plant Manager

**Facility**
PolyOne Engineered Films, Inc.
1944 Valley Avenue
Winchester, Virginia 22604

**Contact person**
Christopher Hahn
Director, EHS Affairs
(540) 665-2511

**AIRS Identification Number:** 51-840-0060

**Facility Description:** The PolyOne Engineered Films, Inc. facility in Winchester conducts calendering, laminating, printing, and painting of performance polymers and engineered films to produce plastic sheeting used primarily by the automotive industry. The activities include SIC Codes 3083 (Laminated Plastic Sheets) and 3081 (Unsupported Plastic Sheets).

## II. Emission Units

Equipment to be operated consists of:

| Emission Unit ID | Stack ID | Emission Unit Description | *Size/Rated Capacity | Pollution Control Device Description (PCD) | PCD ID | Pollutant Controlled | Applicable Permit Date |
|---|---|---|---|---|---|---|---|
| **Fuel Burning Equipment** | | | | | | | |
| BLR1 | 1 | Keeler Co. Nat. Gas/No. 2 Oil fired Industrial Boiler, installed 1951 (coal to NG/No. 2 oil firing conversion - 1968) | 36 MMBtu/hr | - | - | - | - |
| BLR2 | 2 | Cleaver Brooks, Nat. Gas/No. 2 Oil fired Industrial Boiler, installed 1972 | 16 MMBtu/hr | - | - | - | - |
| PH1 | 3 | American Hydrotherm Calender No. 3 1966 Hot Oil Generator, installed 1988 | 16.8 MMBtu/hr | - | - | - | 1/16/01 |
| **Painting Operations** | | | | | | | |
| PNTKTN | 4 | Paint kitchen | - | Smith Engineering Company regenerative thermal oxidizer (RTO) | CNTRL1 | VOC, VHAP | 1/16/01 |
| PNTLAB | 49-51 | Paint laboratory | - | Smith Engineering Company regenerative thermal oxidizer (RTO) | - | VOC, VHAP | 1/16/01 |
| PNT1 | 4 | Paint Line comprised of paint booth (Spider-arm applicator on continuous vinyl web), flash-off zones, and drying ovens | ~7758 sq. yard vinyl/hr | Smith Engineering Company regenerative thermal oxidizer (RTO) | CNTRL1 | VOC, VHAP | 1/16/01 |

| Emission Unit ID | Stack ID | Emission Unit Description | *Size/Rated Capacity | Pollution Control Device Description (PCD) | PCD ID | Pollutant Controlled | Applicable Permit Date |
|---|---|---|---|---|---|---|---|
| PNT2 | 4 | Paint Line comprised of paint booth (Spider-arm applicator on continuous vinyl web), flash-off zones, and drying ovens | ~7758 sq. yard vinyl/hr | Smith Engineering Company regenerative thermal oxidizer (RTO) | CNTRL1 | VOC, VHAP | 1/16/01 |
| PNT3 | 4 | Paint Line comprised of paint booth (Spider-arm applicator on continuous vinyl web), flash-off zones, and drying ovens | ~7758 sq. yard vinyl/hr | Smith Engineering Company regenerative thermal oxidizer (RTO) | CNTRL1 | VOC, VHAP | 1/16/01 |
| PNT4 | | Paint Line comprised of paint booth (Spider-arm applicator on continuous vinyl web), flash-off zones, and drying ovens | 5000 linear ft vinyl /hr | Smith Engineering Company regenerative thermal oxidizer (RTO) | CNTRL2 | VOC, VHAP | 1/16/01 |
| **Laminating Operations** | | | | | | | |
| LAM2 | 7 - 10 | Laminator (including embossing and adhesive material mixing) | 15 m vinyl/min average | - | - | - | - |
| LAM3 | 4 or 11 | Kawakami Laminator (including adhesive material mixing) | 20 m vinyl/min | Smith Engineering Company regenerative thermal oxidizer (RTO)-optional | CNTRL1 (intermittent) | VOC, VHAP | 1/16/01 |
| LAM4 | 12 | Inta-Rota Laminator (including adhesive material mixing) | 20 m vinyl/min | - | - | - | 1/16/01 |
| **Rotogravure Printing Operations** | | | | | | | |
| LEMB | 16 - 19 | Lembo 4-Station Rotogravure Printing Press (vinyl substrate) | 1,490 linear yards vinyl/hr avg | - | - | - | |
| **Calendering Operations** | | | | | | | |
| CAL1 | 20 | Farrel Calender | 1,255 sq. yards vinyl/hr | O'Sullivan stack-in-stack | CNTRL5 | VOC, PM, PM-10 | - |
| CALMIX1a | (NA) | Raw material mixing equipment | ~1.6 ton mix/hr @ 6 530-lb batches/hr | Osprey baghouse (vents indoors) | CNTRL3 | PM, PM-10 | |

| Emission Unit ID | Stack ID | Emission Unit Description | *Size/Rated Capacity | Pollution Control Device Description (PCD) | PCD ID | Pollutant Controlled | Applicable Permit Date |
|---|---|---|---|---|---|---|---|
| CALMIX1b | (NA) | Raw material mixing equipment | ~1.6 ton mix/hr @ 6 530-lb batches/hr | Farr baghouse (vents indoors) | CNTRL4 | PM, PM-10 | |
| CAL2 | 21 - 22 | Nippon Roll Calender | 2,404 sq. yards vinyl/hr | - | - | - | |
| CALMIX2a | (NA) | Raw material mixing equipment | ~1.6 ton mix/hr @ 6 530-lb batches/hr | Osprey baghouse (2 units) (vents indoors) | CNTRL6 | PM, PM-10 | |
| CALMIX2b | (NA) | Raw material mixing equipment | ~1.6 ton mix/hr @ 6 530-lb batches/hr | Osprey baghouse (vents indoors) | CNTRL7 | PM, PM-10 | |
| CAL3 | 24 | Farrel Calender | 6,865 sq. yards vinyl/hr | PolyOne stack-in-stack | CNTRL10 | VOC, PM, PM-10 | - |
| CALMIX3a | (NA) | Raw material mixing equipment | ~1.6 ton mix/hr @ 6 530-lb batches/hr | Osprey baghouse (3 units) (vents indoors) | CNTRL8 | PM, PM-10 | |
| CALMIX3b | (NA) | Raw material mixing equipment | ~1.6 ton mix/hr @ 6 530-lb batches/hr | Osprey baghouse (vents indoors) | CNTRL9 | PM, PM-10 | |
| CALMIX3c | (NA) | Raw material mixing equipment | ~10,000 lb/hr avg | Osprey baghouse (vents indoors) | CNTRL10 | PM, PM-10 | - |
| **Materials Handling Operations** | | | | | | | |
| RES-CONV1 | 25 - 40 | Pneumatic PVC Resin Material Transfer Equipment | 10 tons/hr | Flex-Kleen baghouse (Stacks 25 - 39); Pacific Engineering Company baghouse (Stack 40) | CNTRL12 - CNTRL26 | PM, PM-10 | - |
| RES-CONV2 | 41 - 48 | Pneumatic PVC Resin Material Transfer Equipment | 10 tons/hr | Pacific Engineering Company baghouse | CNTRL27 - CNTRL35 | PM, PM-10 | - |

| Emission Unit ID | Stack ID | Emission Unit Description | *Size/Rated Capacity | Pollution Control Device Description (PCD) | PCD ID | Pollutant Controlled | Applicable Permit Date |
|---|---|---|---|---|---|---|---|
| **Storage Tanks** | | | | | | | |
| TNK-0021 | N/A | Bulk storage tank for plasticizer | 15,000 gal | | - | - | - |
| TNK-0022 | N/A | Bulk storage tank for plasticizer | 15,000 gal | | - | - | - |
| TNK-0023 | N/A | Bulk storage tank for plasticizer | 15,000 gal | | | - | - |
| TNK-0024 | N/A | Bulk storage tank for plasticizer | 15,000 gal | | - | - | - |
| TNK-0025 | N/A | Bulk storage tank for plasticizer | 15,000 gal | | - | - | - |
| TNK-0026 | N/A | Bulk storage tank for plasticizer | 15,000 gal | | - | - | - |
| TNK-0061 | N/A | Bulk storage tank for topcoat | 15,000 gal | | - | - | - |
| TNK-0062 | N/A | Bulk storage tank for topcoat | 15,000 gal | | - | - | - |
| TNK-0063 | N/A | Bulk storage tank for topcoat | 15,000 gal | | - | - | - |
| TNK-0064 | N/A | Bulk storage tank for topcoat | 15,000 gal | | - | | |
| TNK-0065 | N/A | Bulk storage tank for topcoat | 15,000 gal | | - | - | - |
| TNK-0066 | N/A | Bulk storage tank for topcoat | 15,000 gal | | - | - | - |

*The Size/Rated capacity is provided for informational purposes only, and is not an applicable requirement.

# III. Fuel Burning Equipment Requirements - (emission unit ID# BLR1, BLR2, and PH1)

## A. Limitations

1. The approved fuels for the boilers and hot oil generator (BLR1, BLR2, and PH1) are natural gas and distillate oil. Distillate oil is defined as fuel oil that meets the specifications for fuel oil numbers 1 or 2 under the American Society for Testing and Materials, ASTM D396-78 "Standard Specification for Fuel Oils". A change in the fuels may require a permit to modify and operate.
   (9 VAC 5-80-110 and Condition 17 of 1/16/01 Permit)

2. Total particulate emissions from the boilers (BLR1 and BLR2) shall not exceed the limit derived as follows:

   E = 0.36H

   Where
   E = Particulate emissions in lbs/hr
   H = Actual heat input (MMBtu/hr)

   (9 VAC 5-40-900 B and 9 VAC 5-80-110)

3. Total sulfur dioxide emissions from the boilers (BLR1 and BLR2) shall not exceed 137 lbs/hr, on a combined basis.
   (9 VAC 5-40-930 A and 9 VAC 5-80-110)

4. Emissions from the operation of the hot oil generator (PH1) shall not exceed the limits specified below:

| | | | |
|---|---|---|---|
| PM-10 | 0.13lbs/hr | 0.56 | tons/yr |
| Sulfur Dioxide | 8.74lbs/hr | 38.29 | tons/yr |
| Carbon Monoxide | 1.41lbs/hr | 6.18 | tons/yr |
| Nitrogen Dioxide | 2.43lbs/hr | 10.66 | tons/yr |

   Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. These emissions are derived from the estimated overall emission contribution from operating limits. Exceedance of the operating limits shall be considered credible evidence of the exceedance of emission limits.
   (9 VAC 5-50-260 and Condition 21 of 1/16/01 Permit)

5. Visible emissions from each boiler (BLR1 and BLR2) stack shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not

exceed 60% opacity. Failure to meet the opacity limit due to the presence of water vapor shall not be a violation.
(9 VAC 5-40-940 B and 9 VAC 5-80-110)

6. Visible emissions from the hot oil generator (PH1) shall not exceed 10% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 20% opacity as determined by EPA Method 9 (reference 40 CFR Part 60, Appendix A).
(9 VAC 5-80-110 and Condition 23 of 1/16/01 Permit)

7. Boiler (BLR1 and BLR2) emissions shall be controlled by proper operation and maintenance. Boiler (BLR1 and BLR2) operators shall be trained in the proper operation of all such equipment. Training shall consist of a review and familiarization of the manufacturer's operating instructions, at minimum. The permittee shall have available good written operating procedures and a maintenance schedule for each boiler (BLR1 and BLR2).
(9 VAC 5-20-180 and 9 VAC 5-80-110)

8. The distillate oil shall meet the specifications below:

   DISTILLATE OIL which meets ASTM D396-78 specifications for numbers 1 or 2 fuel oil:

   Maximum sulfur content per shipment: 0.5%

   (9 VAC 5-80-110)

## B. Monitoring and Recordkeeping

1. The permittee shall perform weekly inspections of the two boiler stacks (BLR1 and BLR2) and of the hot oil generator stack (PH1) when burning distillate fuel in the respective unit, to determine the presence of visible emissions. If during the inspection visible emissions are observed, an EPA Method 9 (reference 40 CFR 60, Appendix A) visible emissions evaluation (VEE) shall be conducted. The VEE shall be conducted for a minimum period of six (6) minutes. If the six-minute average opacity exceeds the applicable limit, the observation period shall continue until a total of sixty (60) minutes of observation have been completed.
(9 VAC 5-80-110)

2. The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Valley Region. These records shall include, but are not limited to:

   a. Fuel purchase records, including type of fuel purchased;

   b. Fuel supplier certifications for oil shipments purchased, indicating the sulfur content by weight per shipment;
   c. The monthly and annual throughput of natural gas (in million cubic feet) and distillate oil (in 1000 gallons) for the two boilers (BLR1 and BLR2) and the hot oil generator (PHTR1). The annual throughput shall be calculated monthly as the sum

of each consecutive 12-month period;

d. Weekly inspection results of the boiler (BLR1 and BLR2) and hot oil generator (PH1) stacks (when burning distillate oil), to include:

(1) The date of each inspection and the initials of the inspector;

(2) Whether or not visible emissions were observed; and

(3) EPA Method 9 (40 CFR 60, Appendix A) observation record, if applicable.

e. Boiler (BLR1 and BLR2) and generator (PH1) operator training records, including the dates of training and names of trainees.

f. Records of maintenance performed on the boilers (BLR1 and BLR2) and the generator (PH1)

g. Monthly emissions calculations for emissions from the hot oil generator (PH1) stack using calculation methods approved by the Director, Valley Region to verify compliance with the ton/yr emissions limitations in Condition III.A.4;

(9 VAC 5-80-110 and Condition 25 of 1/16/01 Permit)

3. The permittee shall have available good written operating procedures and a maintenance schedule for each boiler (BLR1 and BLR2) and the hot oil generator (PH1). These procedures shall be based on the manufacturer's recommendations, at minimum. These records shall be kept on site and made available for inspection by the DEQ.
(9 VAC 5-80-110)

## C. Testing

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports will be provided at the appropriate locations.
(9 VAC 5-40-30 and 9 VAC 5-80-110)

2. If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following test methods in accordance with procedures approved by the DEQ as follows:

| Pollutant | Test Method (40 CFR Part 60, Appendix A) |
|---|---|
| | |

| Pollutant | Test Method (40 CFR Part 60, Appendix A) |
|---|---|
| SO2 | EPA Method 6 |
| PM/PM10 | EPA Methods 5, 17 |
| Visible Emission | EPA Method 9 |

(9 VAC 5-80-110)

# IV. Painting Operation Requirements - (emission unit ID# PNTKTN, PNTLAB, PNT1 - PNT4)

## A. Limitations

1. Volatile organic compound (VOC) emissions from Paint Lines 1, 2, and 3 (PNT1 - PNT3) shall be controlled by an 80% efficient capture system and a regenerative thermal oxidizer (RTO). Paint Lines 1, 2, and 3 (PNT1 - PNT3) and the RTO shall be provided with adequate access for inspection.
   (9 VAC 5-80-110 and Condition 4 of 1/16/01 Permit)

2. VOC emissions from Paint Line 4 (PNT4) shall be controlled by a permanent total enclosure and a RTO. Paint Line 4 (PNT4) and the RTO shall be provided with adequate access for inspection.
   (9 VAC 5-80-110 and Condition 5 of 1/16/01 Permit)

3. VOC emissions from the Paint Kitchen (PNTKTN) shall be controlled by a permanent total enclosure and a RTO. The Paint Kitchen (PNTKTN) and the RTO shall be provided with adequate access for inspection.
   (9 VAC 5-80-110 and Condition 6 of 1/16/01 Permit)

4. The RTO serving Paint Lines 1, 2, and 3 (PNT1 – PNT3) and the Paint Kitchen (PNTKTN) shall maintain a control efficiency for VOC of no less than 95 percent on a mass basis.
   (9 VAC 5-80-110 and Condition 8 of 1/16/01 Permit)

5. The RTO serving Paint Line 4 (PNT4) shall maintain a control efficiency for VOC of no less than 99 percent on a mass basis or maintain at all times an emission rate no greater than 7.8 pounds per hour.
   (9 VAC 5-80-110 and Condition 9 of 1/16/01 Permit)

6. The total enclosures required in Conditions IV.A.2 and IV.A.3 shall meet the following criteria:

   a. Any natural draft openings shall be at least four equivalent opening diameters from each VOC emitting point;

   b. The total area of all natural draft openings shall not exceed five percent of the surface area of the enclosure's four walls, floor, and ceiling;

   c. The average facial velocity of air through the natural draft openings shall be at least 200 feet per minute and the direction of flow shall be into the enclosure;

   d. All access doors and windows shall be closed during routine operation of the

enclosed equipment.

(9 VAC 5-80-110 and Condition 10 of 1/16/01 Permit)

7. The RTO controlling Paint Lines 1, 2, and 3 (PNT1 - PNT3) and the Paint Kitchen (PNTKTN) shall maintain a minimum combustion zone temperature of 1475°F and a residence time of at least 0.5 second. The minimum combustion zone temperature shall be calculated as a three-hour average. Details concerning the method of calculating the three-hour average combustion zone temperature shall be arranged with the Director, Valley Region.
(9 VAC 5-80-110 and Condition 11 of 1/16/01 Permit)

8. The RTO controlling Paint Line 4 shall maintain a minimum combustion zone temperature of 1550°F and a residence time of 1.0 second. The minimum combustion zone temperature shall be calculated as a three-hour average. Details concerning the method of calculating the three-hour average combustion zone temperature shall be arranged with the Director, Valley Regional Office.
(9 VAC 5-80-110 and Condition 12 of 1/16/01 Permit)

9. The approved fuels for combustion in the RTOs are natural gas and distillate oil. Use of a different fuel may require a permit to modify and operate.
(9 VAC 5-80-110 and Condition 18 of 1/16/01 Permit)

10. VOC emissions shall not exceed the limits specified below:

| | |
|---|---|
| Paint Lines 1, 2, 3, & 4 and Paint Kitchen (PNT1 - PNT4, PNTKTN) | 1,037 tpy |
| Paint Laboratory (PNTLAB) | 30 tpy |

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Compliance shall be demonstrated by mass balance as specified in Condition IV.B.2.
(9 VAC 5-80-110 and Condition 22 of 1/16/01 Permit)

11. Visible emissions from each RTO shall not exceed five percent (5%) opacity as determined by EPA Method 9 (reference 40 CFR 60, Appendix A).
(9 VAC 5-50-80, 9 VAC 5-80-110 and Condition 24 of 1/16/01 Permit)

12. Paint Lines 1, 2, 3, and 4 (PL1 – PL4) shall, upon request of the Department, shut down immediately if its emissions increase in any amount because of a bypass, malfunction, shutdown or failure of the process or its associated air pollution control equipment. The

Paint Lines shall not return to operation until they and the associated air pollution control equipment are able to operate in the proper manner.

(9 VAC 5-80-110 and Condition 31 of 1/16/01 Permit)

13. For Paint Line 4 (PNT4), the permittee shall develop a Quality Improvement Plan (QIP) according to 40 CFR 64.8 if more than six excursions from the indicator range specified in the Compliance Assurance Monitoring (CAM) Plan (Attachment A) occur within a semi-annual period. An excursion shall be defined as any three-hour period of operation during which the average combustion zone temperature is outside of the indicator range specified in the CAM Plan. Semi-annual periods are as indicated by reporting requirements in Condition XII.C.3.
(9 VAC 5-80-110 and 40 CFR 64.8)

**B. Monitoring**

1. Each RTO shall be equipped with devices to continuously measure and record oxidizer chamber temperature. Each monitoring device shall be installed, maintained, calibrated and operated in accordance with approved procedures which shall include, as a minimum, the manufacturer's written requirements or recommendations. Each monitoring device shall be provided with adequate access for inspection and shall be in operation when the RTO is operating.
(9 VAC 5-80-110 and Condition 13 of 1/16/01 Permit)

2. Annual VOC emissions shall be calculated by mass balance as specified by the formula below:

$$V_{EM} = (V_{TPUT} - V_{REC} - V_{RET}) \times (1 - OCE)$$

$V_{EM}$ = Annual emissions of VOCs in tons.

$V_{TPUT}$ = Annual throughput of VOCs in tons.

$V_{REC}$ = Annual amount of VOCs recovered or disposed of off-site in tons.

$V_{RET}$ = Annual amount of VOCs retained in the products in tons.

OCE = overall control efficiency (the product of capture efficiency and control device destruction efficiency)

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. The details of the $V_{REC}$ and the $V_{RET}$ calculations shall be arranged with the Director, Valley Regional Office. The control device capture and destruction efficiencies used in the equation shall be the efficiencies demonstrated in the most recent performance tests conducted according to 40 CFR 51, Appendix M, Method 204 (capture efficiency) or 40 CFR 60, Appendix A, Method 25 or 25A (destruction efficiency). The capture efficiency value used in calculating emissions for paint lines meeting the criteria for permanent total enclosure (Condition IV.A.6) shall be 100 percent.
(9 VAC 5-80-110 and Condition 15 of 1/16/01 Permit)

3. Except as indicated in Condition IV.B.4, for the purpose of calculating emissions, the VOC content of each coating as supplied shall be based on formulation data as shown on its Material Safety Data Sheet (MSDS). If VOC content is given as a range, the

maximum value shall be used.
(9 VAC 5-80-110)

4. If the monthly calculation (as required by Condition IV.B.2) indicates that annual VOC emissions are equal to or greater than 75% of the allowable limits in Condition IV.A.10, the VOC content of each coating as supplied shall be determined quarterly using Reference Method 24 (40 CFR 60, Appendix A) and such content shall be used for the purpose of calculating emissions. If a MSDS indicates a material contains 100% VOC, it shall be acceptable to use this value and the material density from the MSDS for emissions calculations in lieu of testing. Testing shall be conducted, by the permittee or the supplier, for each product formulation received after such emissions level is determined. Each coating shipment received shall be clearly identified by a product formulation number which may be correlated to Method 24 test results. The most recent test results for each formulation shall be used in emission calculations. Quarterly testing may be discontinued after actual annual emissions are below 75% of the allowable limit in Condition IV.A.10 for three consecutive months. If quarterly testing is discontinued, the VOC content determined in the latest test for each formulation shall be used in lieu of the MSDS value in emission calculations.
(9 VAC 5-80-110)

5. For Paint Line 4 (PNT4), the permittee shall conduct monitoring as specified in the Compliance Assurance Monitoring (CAM) Plan (Attachment A).
(9 VAC 5-80-110 and 40 CFR 64.6(c))

## C. Recordkeeping

The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Valley Region. These records shall include, but are not limited to:

1. MSDS or VOC Data Sheet showing VOC content (pounds/gallon) of each coating used;

2. Reference Method 24 test results, if applicable;

3. Monthly and annual use (in gallons) of each coating for Paint Lines 1, 2, 3, and 4 (PNT1 - PNT4). Annual use shall be calculated monthly as the sum of each consecutive 12-month period;

4. Monthly and annual use (in gallons) of each coating for the Paint Laboratory (PNTLAB). Annual use shall be calculated monthly as the sum of each consecutive 12-month period;

5. Monthly and annual VOC (in tons) retained in the recovered coatings and product(s) for Paint Lines 1, 2, 3, and 4 (PNT1 - PNT4). Annual mass of compounds retained shall be calculated monthly as the sum of each consecutive 12-month period;

6. Monthly and annual VOC emissions (in tons) from Paint Lines 1, 2, 3, and 4 (PNT1 - PNT4) and the Paint Kitchen (PNTKTN) (as a sum) and from the Paint Laboratory (PNTLAB). Annual emissions shall be calculated monthly as the sum of each

consecutive 12-month period;

7. Average combustion zone temperature (during actual painting operations) of the RTO serving Paint Lines 1, 2, and 3 (PNT1 – PNT3), calculated hourly as an average of the temperatures during the previous three hours;

8. Monthly records of any three-hour period (during actual painting operations) during which the average combustion zone temperature of the RTO serving Paint Lines 1, 2, and 3 (PNT1 – PNT3) is below 1475°F and the total hours of RTO operation;

9. Documentation of monitoring required by the CAM Plan (Attachment A), to include:

   a) Average combustion zone temperature (during actual painting operations) of the RTO serving Paint Line 4 (PNT4), calculated hourly as an average of the temperatures during the previous three hours;

   b) Number of excursions in each semi-annual period;

   c) Corrective actions taken in response to excursions;

   d) Results of annual check of thermocouple accuracy;

   e) Results of semi-annual inspections of valves on air lines to each RTO bed;

   f) Records of repairs or replacements undertaken as a result of semi-annual valve inspections;

   g) If applicable, any written QIP required by Condition IV.A.12 and 40 CFR 64.8 and any activities undertaken to implement a QIP;

10. Monthly records of any three-hour period (during actual painting operations) during which the average combustion zone temperature of the RTO serving Paint Line 4 (PNT4) is below 1550°F and the total hours of RTO operation;

11. Results of performance tests and enclosure tests;

12. Strip charts showing the combustion zone temperature of each RTO.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9 VAC 5-80-110 and Condition 25 of 1/16/01 Permit)

## D. Testing

1. The permitted facility shall be constructed so as to allow for emissions testing and monitoring upon reasonable notice at any time, using appropriate methods. This includes constructing the facility such that volumetric flow rates and pollutant emission rates can be accurately determined by applicable test methods and providing stack or duct that is free from cyclonic flow. Test ports shall be provided when requested at the appropriate locations.

(9 VAC 5-80-110 and Condition 14 of 1/16/01 Permit)

2. Before September 30, 2001, and every third calendar year following that date, the permittee shall perform stack emissions testing according to reference method 25 or 25A (40 CFR 60 Appendix A) on the RTO serving Paint Line 4 (PNT4) to demonstrate compliance with the destruction efficiency specified in Condition IV.A.5. The integrity of the permanent total enclosure shall also be verified. Tests shall be conducted and reported and data reduced as set forth in 9 VAC 5-50-30 and the test methods and procedures contained in each applicable section or subpart listed in 9 VAC 5-50-410. The details of the tests are to be arranged with the Director, Valley Region. If the first two tests conducted show compliance with the destruction efficiency requirement of Condition IV.A.5, the permittee may request from the Director, Valley Region, a reduction in the required frequency of subsequent emissions tests.
(9 VAC 5-80-110)

3. If the monthly calculation (as required by Condition IV.B.2) indicates that annual VOC emissions are equal to or greater than 50% of the allowable limits in Condition IV.A.10, the permittee shall perform stack emissions testing according to reference method 25 or 25A (40 CFR 60 Appendix A) on the RTO serving Paint Lines 1 – 3 (PNT1 – PNT3) to demonstrate compliance with the destruction efficiency specified in Condition IV.A.4. The tests shall be performed and demonstrate compliance with the standard contained in Condition IV.A.4 within 180 days after calculating emissions in excess of 50% of the allowable rate or within five calendar years of the previous stack test on the unit, whichever occurs later. The details of the test are to be arranged with the Director, Valley Region. The permittee shall submit a test protocol at least 30 days prior to testing. Two copies of the test results shall be submitted to the Director, Valley Region, within 60 days after test completion and shall conform to the test report format enclosed with this permit.
(9 VAC 5-80-110)

4. If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following test methods in accordance with procedures approved by the DEQ as follows:

| **Pollutant** | **Test Method (40 CFR Part 60, Appendix A)** |
|---|---|
| VOC | EPA Methods 18, 25, 25a |
| VOC content | EPA Method 24 |
| Visible Emission | EPA Method 9 |

(9 VAC 5-80-110)

## E. Reporting

1. The permittee shall submit a quarterly report as specified in Condition IV.E.2 to the Director, Valley Region, in accordance with the following schedule:

| Time Period Covered by Report | Report Due Date |
|---|---|
| January 1 – March 31 | June 1 |
| April 1 - June 30 | September 1 |
| July 1 – September 30 | December 1 |
| October 1 – December 31 | March 1 |

The reports due on March 1 and September 1 shall be submitted with the semi-annual report required by Condition XII.C.3.
(9 VAC 5-80-110 and Condition 26 of 1/16/01 Permit)

2. Each quarterly report shall document the following:

   a) For the RTO serving Paint Lines 1, 2, and 3 (PNT1 – PNT3), any three-hour period (during actual painting operations) during which the average combustion zone temperature is below 1475°F and the total hours of RTO operation;

   b) For the RTO serving Paint Line No. 4 (PNT4), any three-hour period (during actual painting operations) during which the average combustion zone temperature is below 1550°F and the total hours of RTO operation.

   The submission of quarterly reports may be discontinued at any time upon written notification from the Director, Valley Region.
   (9 VAC 5-80-110 and Condition 26 of 1/16/01 Permit)

3. In addition to the reports required by Condition XII.C.3, written reports containing the following information pertaining to the CAM Plan for Paint Line 4 (PNT4) shall be submitted to the Director, Valley Region, no later than **March 1** and **September 1** of each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

   a. Summary information on the number, duration, and cause (including unknown cause, if applicable) of excursions and the corrective actions taken;

   b. Summary information on the number, duration, and cause (including unknown cause, if applicable) of monitor downtime incidents (other than downtime associated with zero and span or other daily calibration checks);

   c. A description of actions taken to implement a QIP during the reporting period as specified in 40 CFR 64.8. Upon completion of a QIP, the permittee shall include in the

next summary report documentation that the plan has been completed and reduced the likelihood of similar levels of excursions.

The information listed above may be included in the reports required by Condition XIII.C.3. (9 VAC 5-80-110 and 40 CFR 64.9(a)(2))

# V. Laminating Operations Requirements - (emission unit ID# LAM2 - LAM4)

Limitations, monitoring, recordkeeping, and reporting requirements for the RTO that intermittently controls emissions from Laminator 3 (LAM3) are included in Part IV of the permit. The RTO also controls emissions from painting operations.

## A. Limitations

1. VOC emissions from Laminator 3 (LAM3) shall be vented to the atmosphere or controlled by a 95 % efficient capture system and an RTO. The laminator (LAM3) and RTO shall be provided with adequate access for inspection.
   (9 VAC 5-80-110 and Condition 3 of 1/16/01 Permit)

2. Emissions from Laminator 3 (LAM3) shall not be vented to the RTO during periods when Paint Line 1, 2, and 3 (PNT1 – PNT3) are operating. The facility shall maintain and operate a process fume control system for the venting of laminator emissions.
   (9 VAC 5-80-100 and Condition 7 of 1/16/01 Permit)

3. VOC emissions shall not exceed the limits specified below:

   | | |
   |---|---|
   | Laminator 3 (LAM3) | 100 tpy |
   | Laminator 4 (LAM4) | 100 tpy |

   Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Compliance shall be demonstrated by mass balance as specified in Condition V.B.1.
   (9 VAC 5-80-110 and Condition 22 of 1/16/01 Permit)

4. Visible emissions from Laminator 2 (LAM2) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60% opacity.
   (9 VAC 5-40-80 and 9 VAC 5-80-110)

5. Visible emissions from Laminators 3 and 4 (LAM3 and LAM4) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30% opacity.
   (9 VAC 5-50-80 and 9 VAC 5-80-110)

6. The permittee shall regularly investigate the technical feasibility of using coatings having lower volatile toxic compound or hazardous air pollutant content on Laminators 3 and 4 (LAM3 and LAM4). The results of such feasibility studies shall be reported semi-annually as required by Condition XII.D. Details of the studies shall be arranged with the Director, Valley Regional Office.
   (9 VAC 5-80-110 and Condition 16 of 1/16/01 Permit)

7. Laminotors 3 and 4 (LAM3 and LAM4) shall, upon request of the Department, shut down

immediately if its emissions increase in any amount because of a bypass, malfunction, shutdown or failure of the process or its associated air pollution control equipment. The Laminators shall not return to operation until they and the associated air pollution control equipment are able to operate in the proper manner.
(9 VAC 5-80-110 and Condition 31 of 1/16/01 Permit)

**B. Monitoring**

1. Annual VOC emissions from Laminator 3 (LAM3), when such emissions are treated by the RTO, shall be calculated by mass balance as specified by the formula below:

$$V_{EM} = (V_{TPUT} - V_{REC} - V_{RET}) \times (1 - OCE)$$

$V_{EM}$ = Annual emissions of VOCs in tons.

$V_{TPUT}$ = Annual throughput of VOCs in tons.

$V_{REC}$ = Annual amount of VOCs recovered or disposed of off-site in tons.

$V_{RET}$ = Annual amount of VOCs retained in the products in tons.

OCE = overall control efficiency (the product of capture efficiency and control device destruction efficiency)

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. The details of the $V_{REC}$ and the $V_{RET}$ calculations shall be arranged with the Director, Valley Regional Office. The control device capture and destruction efficiencies used in the equation shall be the efficiencies demonstrated in the most recent performance tests conducted according to 40 CFR 51, Appendix M, Method 204 (capture efficiency) or 40 CFR 60, Appendix A, Method 25 or 25A (destruction efficiency).
(9 VAC 5-80-110 and Condition 15 of 1/16/01 Permit)

2. Annual VOC emissions from Laminator 3 (LAM3) (when such emissions are not controlled) and Laminator 4 (LAM4) shall be calculated by mass balance as specified by the formula below:

$$V_{EM} = V_{TPUT} - V_{REC} - V_{RET}$$

$V_{EM}$ = Annual emissions of VOCs in tons.

$V_{TPUT}$ = Annual throughput of VOCs in tons.

$V_{REC}$ = Annual amount of VOCs recovered or disposed of off-site in tons.

$V_{RET}$ = Annual amount of VOCs retained in the products in tons.

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. The details of the $V_{REC}$ and the $V_{RET}$ calculations shall be arranged with the Director, Valley Regional Office.
(9 VAC 5-80-110 and Condition 15 of 1/16/01 Permit)

3. Except as indicated in Condition V.B.4, for the purpose of calculating emissions, the VOC content of each adhesive or coating as supplied shall be based on formulation data as shown on its Material Safety Data Sheet (MSDS). If VOC content is given as a range, the maximum value shall be used.
(9 VAC 5-80-110)

4. If the monthly calculation (as required by Conditions V.B.1 and V.B.2) indicates that annual VOC emissions are equal to or greater than 50% of the allowable limits in Condition V.A.3, the VOC content of each adhesive or coating as supplied shall be determined quarterly using Reference Method 24 (40 CFR 60, Appendix A) and such content shall be used for the purpose of calculating emissions. If a MSDS indicates a material contains 100% VOC, it shall be acceptable to use this value and the material density from the MSDS for emissions calculations in lieu of testing. Testing shall be conducted, by the permittee or the supplier, for each product formulation received after such emissions level is determined. Each adhesive or coating shipment received shall be clearly identified by a product formulation number that may be correlated to Method 24 test results. The most recent test results for each formulation shall be used in emission calculations. Quarterly testing may be discontinued after actual annual emissions are below 50% of the allowable limit in Condition V.A.3 for three consecutive months. If quarterly testing is discontinued, the VOC content determined in the latest test for each formulation shall be used in lieu of the MSDS value in emission calculations.
(9 VAC 5-80-110)

## C. Recordkeeping

The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Valley Region. These records shall include, but are not limited to:

a. MSDS or VOC Data Sheet showing VOC content (pounds/gallon) of each adhesive and coating used;

b. Results of Reference Method 24 tests, if applicable;

c. Monthly and annual use (in gallons) of each adhesive and coating for Laminators 3 and 4 (LAM3 and LAM4). Annual use shall be calculated monthly as the sum of each consecutive 12-month period;

d. Monthly and annual VOC (in tons) retained in hazardous waste and laminator product(s) for Laminators 3 and 4 (LAM3 and LAM4). Annual amounts shall be calculated monthly as the sum of each consecutive 12-month period;

e. For Laminator 3 (LAM3), hours that emissions are released to the atmosphere and hours that emissions are vented to the RTO, on a monthly and annual basis;

f. Monthly and annual VOC emissions (in tons) from each of Laminators 3 and 4 (LAM3 and LAM4). Annual emissions shall be calculated as the sum of each consecutive 12-month period;

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9 VAC 5-80-110 and Condition 25 of 1/16/01 Permit)

## D. Testing

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports will be provided at the appropriate locations.
(9 VAC 5-80-110 and Condition 14 of 1/16/01 Permit)

2. If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following test methods in accordance with procedures approved by the DEQ as follows:

| **Pollutant** | **Test Method (40 CFR Part 60, Appendix A)** |
|---|---|
| VOC | EPA Methods 18, 25, 25a |
| VOC Content | EPA Method 24 |
| Visible Emission | EPA Method 9 |

(9 VAC 5-80-110)

## E. Reporting

The permittee shall submit a status report semi-annually addressing results of the feasibility studies required by Condition X.A.5. Reports shall include, but not be limited to:

1. A summary of the coatings evaluated during the previous six months;

2. Results of the coating evaluation;

3. The hazardous air pollutant (HAP) content (in lbs HAP/ lb coating used), calculated as an average of all coatings used on Laminators 3 and 4 (LAM3 and LAM4) for the previous six months.

Details of the reporting format shall be arranged with the Director, Valley Regional Office.
(9 VAC 5-80-110 and Condition 27 of 1/16/01 Permit)

# VI. Rotogravure Printing Requirements - (emission unit ID# LEMB)

The following terms and conditions include requirements of 40 CFR Part 63 Subpart KK for product and packaging rotogravure facilities, which is applicable to the Lembo printer (LEMB). A current copy of 40 CFR Part 63 Subpart KK has been attached. All terms used in conditions derived from 40 CFR 63 Subpart KK shall have the meanings as defined in 40 CFR 63.2 and 40 CFR 63.822. Please note that, as used in Part VI, "process equipment" means rotogravure press.

## A. Limitations

1. Except as specified in this permit, the facility is to be operated in accordance with federal requirements in 40 CFR 63 Subpart KK and relevant terms of 40 CFR 63 Subpart A, as identified in Table 1 of Subpart KK.
   (9 VAC 5-80-110)

2. Visible emissions from the Lembo printer (LEMB) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60% opacity.
   (9 VAC 5-40-80 and 9 VAC 5-80-110)

3. Hazardous air pollutant (HAP) emissions from the Lembo printer (LEMB) shall be limited to no more than four percent of the mass of inks, coatings, varnishes, adhesives, primers, solvents, reducers, thinners, and other materials applied for the month.
   (9 VAC 5-80-110 and 40 CFR 63.825(b))

4. 40 CFR 63 Subpart KK contains various options for compliance with the standards for product rotogravure printing which are enumerated in 40 CFR 63.825(b). If in the future the permittee chooses a different compliance option from that codified herein, a permit modification may be required.
   (9 VAC 5-80-110)

## B. Monitoring

1. To demonstrate compliance with the limit in Condition VI.A.2, the organic HAP weight fraction of each ink, coating, varnish, adhesive, primer, solvent, thinner, reducer, diluent, and other material applied shall be determined by one of the following procedures:

   a. EPA Reference Method 311: The permittee may test the material in accordance with Method 311 (40 CFR 63 Appendix A). The Method 311 determination may be performed by the manufacturer of the material and the results provided to the permittee. If these values cannot be determined using Method 311, the permittee shall submit to the U. S. Environmental Protection Agency (EPA) for approval an alternative technique for determining their values as specified in 40 CFR 63.827(b)(2).

   b. VOC content: The permittee may determine the volatile matter content of the material in accordance with 40 CFR 63.827(c)(2) and use this value for the organic

HAP content.

c. CPDS formulation data: The permittee may rely on formulation data provided by the manufacturer of the material on Certified Product Data Sheet (CPDS) if

(1) The manufacturer has included in the organic HAP content determination all organic HAP present at a level greater than 0.1 percent in any raw material used, weighted by the mass fraction of each raw material used in the material, and

(2) The manufacturer has determined the organic HAP content of each raw material present in the formulation by Method 311 (40 CFR 63 Appendix A) or by an alternate method approved by EPA or by reliance on a CPDS from a raw material supplier prepared in accordance with Condition VI.B.1.a.

(9 VAC 5-80-110 and 40 CFR 63.827(b)(2))

2. In the event of an inconsistency between the Method 311 (40 CFR 63 Appendix A) test data and a facility's formulation data, the Method 311 test data shall govern, unless after consultation, the permittee demonstrates to the satisfaction of DEQ that the formulation data are correct.
(9 VAC 5-80-110 and 40 CFR 63.827(b)(2)(iv))

3. Compliance with Condition VI.A.3 shall be demonstrated by showing that the monthly average as-applied organic HAP content of all materials applied is less than 0.04 kg HAP per kg material applied, as determined by the following equation:

$$H_L = \frac{\sum_{i=1}^{p} M_i C_{hi} + \sum_{i=1}^{q} M_j C_{hj}}{\sum_{i=1}^{p} M_i + \sum_{i=1}^{q} M_j}$$

Where
$H_L$ = the monthly average as-applied organic HAP content of all solids-containing materials applied at less than 0.04 kg organic HAP per kg of material applied, in kg/kg
$M_i$ = the mass of ink or other material, i, applied in a month, in kg
$C_{hi}$ = the organic HAP content of ink or other solids-containing material, i, expressed as a weight-fraction, in kg/kg
$C_{hj}$ = the organic HAP content of solvent, j, expressed as a weight-fraction, in kg/kg
$M_j$ = the mass of solvent, thinner, reducer, diluent, or other non-solids containing material, j, applied in a month

(9 VAC 5-80-110 and 40 CFR 63.825(b)(4))

4. The amount of organic HAP applied shall be determined using the following equation:

$$H = \sum_{i=1}^{p} M_i C_{hi} + \sum_{i=1}^{q} M_j C_{hj}$$

Where
H = the total monthly organic HAP applied, in kg
$M_i$ = the mass of ink or other material, i, applied in a month, in kg
$C_{hi}$ = the organic HAP content of ink or other solids-containing material, i, expressed as a weight-fraction, in kg/kg
$C_{hj}$ = the organic HAP content of solvent, j, expressed as a weight-fraction, in kg/kg
$M_j$ = the mass of solvent, thinner, reducer, diluent, or other non-solids containing material, j, applied in a month

The organic HAP emitted from the Lembo printer (LEMB) is equal to the organic HAP applied on the printer.
(9 VAC 5-80-110 and 40 CFR 63.825(f)(5))

5. The permittee shall perform weekly inspections of the Lembo printer (LEMB) stacks to determine the presence of visible emissions. If during the inspection, or at any other time, visible emissions are observed, an EPA Method 9 (40 CFR 60, Appendix A) visible emission evaluation (VEE) shall be conducted by a certified observer. The VEE shall be conducted for a minimum period of six (6) minutes. If any of the observations exceed the standard, the observation period shall continue until sixty (60) minutes of observation have been completed. If the sixty-minute VEE indicates a violation of the standard, corrective action shall be taken.
(9 VAC 5-80-110)

## C. Recordkeeping

The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Valley Region. These records shall include, but are not limited to:

1. Annual throughput of each ink, coating, varnish, adhesive, primer, solvent, reducer, thinner, and other material used in the Lembo printer, calculated monthly as the sum of each consecutive 12-month period.

2. HAP content of each ink, coating, varnish, adhesive, primer, solvent, reducer, thinner, and other material used in the Lembo printer, as determined according to Condition VI.B.1.

3. HAP emissions from the Lembo printer, calculated monthly as the sum of each consecutive 12-month period. Emissions shall be calculated in accordance with Condition VI.B.4.
4. Monthly average as-applied organic HAP content of all materials applied at the Lembo printer, calculated according to the equation in Condition VI.B.3.

5. Results from weekly inspections of the Lembo printer (LEMB) stacks, to include:

   (a) The date, time, and name of person performing each inspection;

(b) Whether or not visible emissions were observed;

(c) EPA Method 9 (40 CFR 60, Appendix A) observation record, if applicable;

(d) If an exceedance of the 20% opacity standard is determined by a sixty-minute EPA Method 9 (40 CFR 60, Appendix A) observation, a description of the corrective action taken.

Such records shall be maintained in a form suitable and readily available for expeditious inspection and review. The files shall be retained for at least five (5) years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. At a minimum, the most recent two (2) years of data shall be retained on site. The remaining three (3) years may be retained off site. Such files may be maintained on microfilm, computer, computer floppy disks, magnetic tape disks, or microfiche.
(9 VAC 5-80-110, 40 CFR 63.829(b)(1), 40 CFR 63.6(e)(3), and 40 CFR 63.10(b)(2))

## D. Testing

1. The facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports will be provided at the appropriate locations.
(9 VAC 5-40-30 and 9 VAC 5-80-110)

2. If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following test methods in accordance with procedures approved by the DEQ as follows:

| Pollutant | Test Method |
|---|---|
| VOC | EPA Methods 18, 25, 25a (40 CFR Part 60, Appendix A) |
| VOC Content | EPA Methods 24, 24a (40 CFR Part 60, Appendix A) |
| HAP Content | EPA Method 311 (40 CFR Part 63, Appendix A) |
| Visible Emission | EPA Method 9 (40 CFR Part 60, Appendix A) |

(9 VAC 5-80-110)

## E. Reporting

As required under 40 CFR 63.10(e)(3)(vii) and (e)(3)(viii), one summary report shall be submitted to the Director, Valley Region, semi-annually for the hazardous air pollutants monitored at the rotogravure presses (P1 - P5). The summary report shall be entitled ``Summary Report--Gaseous Excess Emissions'' and shall contain the following information:

1. The company name and address;

2. An identification of each hazardous air pollutant monitored at the rotogravure press (LEMB);

3. The beginning and ending dates of the reporting period;

4. A brief description of the process unit(s);

5. The emission limitations specified in 40 CFR 63 Subpart KK;

6. The total operating time of the rotogravure press (LEMB) during the reporting period;

7. An emission data summary, including the total duration of excess emissions during the reporting period (recorded in minutes for opacity and hours for gases), the total duration of excess emissions expressed as a percent of the total source operating time during the reporting period, and a breakdown of the total duration of excess emissions during the reporting period into those that are due to startup/shutdown, control equipment problems, process problems, other known causes, and other unknown causes;

8. A description of any changes in the process since the last reporting period;

9. Exceedances of the standards in 40 CFR 63.825

10. The name, title, and signature of the responsible official who is certifying the accuracy of the report; and

11. The date of the report.

Once excess emissions are reported, the summary report shall be submitted quarterly. Quarterly reporting shall be continued until a request to reduce reporting frequency according to 40 CFR 63.10(e)(3)(ii) is approved by the Director, Valley Region. A copy of the request shall be sent to EPA at the following address:

U. S. EPA, Region III
Air Protection Division (3AP00)
ATTN: Printing and Publishing NESHAP Coordinator
1650 Arch Street
Philadelphia, Pennsylvania 19103-2029

Semi-annual reports shall be submitted no later than March 1 and September 1 and may be combined with the report required by Condition XIII.C.3. A copy of the report shall be sent to EPA at the above address.
(9 VAC 5-80-110, 40 CFR 63.830(b)(6)(i), 40 CFR 63.10(d)(5), and 40 CFR 63.10(e)(3)(vi))

# VII. Calendering Operations Requirements - (emission unit ID# CAL1 - CAL3, CALMIX1a-b, 2a-b, and 3a-b)

## A. Limitations

1. Visible emissions from Calender Nos. 1 - 3 (CAL1 – CAL3) and associated mixing units (CALMIX1a,b – CALMIX3a,b) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 60% opacity.
   (9 VAC 5-40-80 and 9 VAC 5-80-110)

2. Particulate emissions from the each calender (CAL1 – CAL3) and each calender mixing unit (CALMIX1a,b – CALMIX3a,b) shall not exceed the rate derived from the following equation:

   $$E = 4.10P^{0.67}$$

   Where
   E = emission rate in lbs/hr
   P = process weight rate in tons/hr

   (9 VAC 5-40-260 C and 9 VAC 5-80-110)

3. Particulate emissions from each calender mixing unit (CALMIX1a,b – CALMIX3a,b) shall be controlled by a fabric filter. Each fabric filter shall be provided with adequate access for inspection.
   (9 VAC 5-80-110)

## B. Monitoring

1. If in the future the calender mixing units (CALMIX 1a,b – CALMIX3a,b) are vented to the atmosphere, the permittee shall thereafter perform weekly inspections of each calender mixing unit (CALMIX1a – CALMIX3b) stack to determine the presence of visible emissions. The presence of visible emissions shall require further investigation as to the cause of the visible emissions and timely corrective action shall be taken such that the fabric filter resumes operation with no visible emissions. All observations and corrective action shall be recorded.
   (9 VAC 5-80-110)

2. The permittee shall perform weekly inspections of the calender (CAL1 – CAL3) stacks to determine the presence of visible emissions. If during the inspection visible emissions are observed, an EPA Method 9 (40 CFR 60, Appendix A) visible emission evaluation (VEE) shall be conducted by a certified observer. The VEE shall be conducted for a minimum period of six (6) minutes. If any of the observations exceed the standard, the observation period shall continue until sixty (60) minutes of observation have been completed. If the sixty-minute VEE indicates a violation of the standard, timely corrective action shall be taken.
   (9 VAC 5-80-110)

## C. Recordkeeping

The permittee shall maintain records of all emission data and operating parameters

necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Valley Region. These records shall include, but are not limited to:

1. Annual throughput processed by the calenders (CAL1 – CAL3), in tons, calculated monthly as the sum of each consecutive 12-month period.

2. Annual hours of operation of the calenders (CAL1 – CAL3), calculated monthly as the sum of each consecutive 12-month period.

3. Weekly calender (CAL1 – CAL3) and, if applicable, calender mixing unit (CALMIX1a,b – CALMIX3a,b) stack inspection results including:

   a. The date, time, and name of person performing each inspection;
   b. Whether or not there were visible emissions; and
   c. Results of EPA Method 9 (40 CFR 60, Appendix A) testing.

4.Any maintenance or repairs performed as a result of these inspections.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9 VAC 5-80-110)

## D. Testing

1. The facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports will be provided at the appropriate locations.
   (9 VAC 5-40-30 and 9 VAC 5-80-110)

2. If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following test methods in accordance with procedures approved by the DEQ as follows:

| Pollutant | Test Method (40 CFR Part 60, Appendix A) |
|---|---|
| PM | EPA Method 5 |
| Visible Emission | EPA Method 9 |

(9 VAC 5-80-110)

# VIII. Materials Handling Operations Requirements - (emission unit ID# RESCONV1 and RESCONV2)

## A. Limitations

1. Visible emissions from the materials handling operations (RESCONV1 and RESCONV2) shall not exceed 20% opacity except during one six-minute period in any one hour in which visible emissions shall not exceed 30% opacity.
   (9 VAC 5-40-80 and 9 VAC 5-80-110)

2. Particulate emissions from each of the resin conveyors (RESCONV1 and RESCONV2) shall not exceed the rate derived from the following equation:

   $$E = 4.10P^{0.67}$$

   Where
   E = emission rate in lbs/hr
   P = process weight rate in tons/hr

   (9 VAC 5-40-260 C and 9 VAC 5-80-110)

3. Particulate emissions from each resin conveyor (RESCONV1 and RESCONV2) shall be controlled by a fabric filter. Each fabric filter shall be provided with adequate access for inspection.
   (9 VAC 5-80-110)

## B. Monitoring

The permittee shall perform weekly inspections of the resin conveyor (RESCONV1 and RESCONV2) stacks to determine the presence of visible emissions. If during the inspection, or at any other time, visible emissions are observed, an EPA Method 9 (40 CFR 60, Appendix A) visible emission evaluation (VEE) shall be conducted by a certified observer. If the sixty-minute VEE indicates a violation of the standard, corrective action shall be taken.
(9 VAC 5-80-110)

## C. Recordkeeping

The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Valley Region. These records shall include, but are not limited to:

1. Annual throughput of resin to each resin conveyor (RESCONV1 and RESCONV2), calculated monthly as the sum of each consecutive 12-month period.

2. Annual hours of operation of each resin conveyor (RESCONV1 and RESCONV2), calculated monthly as the sum of each consecutive 12-month period.

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9 VAC 5-80-110)

## D. Testing

1. The permitted facility shall be constructed so as to allow for emissions testing at any time using appropriate methods. Upon request from the Department, test ports will be provided at the appropriate locations.
   (9 VAC 5-40-30 and 9 VAC 5-80-110)

2. If testing is conducted in addition to the monitoring specified in this permit, the permittee shall use the following test methods in accordance with procedures approved by the DEQ as follows:

| **Pollutant** | **Test Method (40 CFR Part 60, Appendix A)** |
|---|---|
| PM/PM10 | EPA Methods 5, 17 |
| Visible Emission | EPA Method 9 |

(9 VAC 5-80-110)

## IX. Storage Tanks (emission unit ID#s TNK-0021 through TNK-0026 and TNK-0061 through TNK-0066)

The following recordkeeping requirement is from 40 CFR 60 Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels for which Construction, Reconstruction, or Modification Commenced after July 23, 1984:

For each storage vessel, the permittee shall keep readily-accessible records showing the dimension of the storage vessel and an analysis showing the capacity of the storage vessel. Such record shall be kept for the life of the vessel.
(9 VAC 5-80-110 and 40 CFR 60.116(b))

# X. Insignificant Emission Units

The following emission units at the facility are identified in the application as insignificant emission units under 9 VAC 5-80-720:

| Emission Unit No. | Emission Unit Description | Citation | Pollutant(s) Emitted (5-80-720 B) | Rated Capacity (5-80-720 C) |
|---|---|---|---|---|
| PHTR4 | Natural-gas-fired burner, Lembo oven | 9 VAC 5-80-720 C | | 2.4 MMBtu/hr |
| PHTR5 | Natural-gas-fired burner, Laminator 3 oven | 9 VAC 5-80-720 C | | 1.2 MMBtu/hr |
| PHTR6 – 9 | (4) natural-gas-fired burners, Paint Line 3 oven Zones 1 – 4 | 9 VAC 5-80-720 C | | 2 MMBtu/hr each |
| PHTR10 | Natural-gas-fired burner, Paint Line 3 oven preheat | 9 VAC 5-80-720 C | | 0.8 MMBtu/hr |
| PHTR11-14 | (4) natural-gas-fired burners, Paint Line 2 oven Zones 1 – 4 | 9 VAC 5-80-720 C | | 2 MMBtu/hr each |
| PHTR15 | Natural-gas-fired burner, Paint Line 1 dryer | 9 VAC 5-80-720 C | | 0.8 MMBtu/hr |
| GEN21 | Diesel emergency generator Bldg 2 | 9 VAC 5-80-720 C | | 375 HP (engine), 200 kW (generator) |
| GEN22 | Diesel emergency generator Bldg 14A | 9 VAC 5-80-720 C | | 375 HP (engine), 200 kW (generator) |
| GEN23 | Diesel emergency generator Bldg 54 | 9 VAC 5-80-720 C | | 375 HP (engine), 200 kW (generator) |
| PUMP24 | Diesel fire control system water pump | 9 VAC 5-80-720 C | | 267 HP (engine) |
| ICENG1 | Gas IC engine powered equipment (portable cement mixer, 2 portable welders, saw, port. generator, etc.) | 9 VAC 5-80-720 C | | ~ < 20 HP |
| CLNR1-4 | (5) parts cleaners | 9 VAC 5-80-720 B | VOC, HAPs | |
| HWC1 | Hazardous waste compactor | 9 VAC 5-80-720 B | VOC, HAPs | |
| TNK1 | Bulk storage tank, plasticizer | 9 VAC 5-80-720 B | VOC, HAPs | 10,000 gal |
| TNK2 | Bulk storage tank, plasticizer | 9 VAC 5-80-720 B | VOC, HAPs | 10,000 gal |
| TNK3 | Bulk storage tank, plasticizer | 9 VAC 5-80-720 B | VOC, HAPs | 11,732 gal |
| TNK4N | Bulk storage tank, plasticizer | 9 VAC 5-80-720 B | VOC, HAPs | 7614 gal |
| TNK4S | Bulk storage tank, plasticizer | 9 VAC 5-80-720 B | VOC, HAPs | 7614 gal |
| TNK5 | Bulk storage tank, plasticizer | 9 VAC 5-80-720 B | VOC, HAPs | 14,500 gal |
| TNK8 | Bulk storage tank, plasticizer | 9 VAC 5-80-720 B | VOC, HAPs | 7500 gal |
| TNK9 | Bulk storage tank, plasticizer | 9 VAC 5-80-720 B | VOC, HAPs | 9964 gal |

| Emission Unit No. | Emission Unit Description | Citation | Pollutant(s) Emitted (5-80-720 B) | Rated Capacity (5-80-720 C) |
|---|---|---|---|---|
| TNK12 | Bulk storage tank, solvent | 9 VAC 5-80-720 B | VOC, HAPs | 7400 gal |
| TNK13 | Bulk storage tank, solvent | 9 VAC 5-80-720 B | VOC, HAPs | 250 gal |
| TNK14 | Bulk storage tank, solvent | 9 VAC 5-80-720 B | VOC, HAPs | 6600 gal |
| TNK15 | Bulk storage tank, solvent | 9 VAC 5-80-720 B | VOC, HAPs | 8000 gal |
| TNK16 | Bulk storage tank, plasticizer | 9 VAC 5-80-720 B | VOC, HAPs | 8000 gal |
| TNK17 | Bulk storage tank, plasticizer | 9 VAC 5-80-720 B | VOC, HAPs | 8000 gal |
| TNK18 | Bulk storage tank, solvent | 9 VAC 5-80-720 B | VOC, HAPs | 10,000 gal |
| TNK19 | Bulk storage tank, solvent | 9 VAC 5-80-720 B | VOC, HAPs | 10,000 gal |
| TNK30 | Storage tank, plasticizer | 9 VAC 5-80-720 B | VOC, HAPs | 275 gal |
| TNK31 | Storage tank, plasticizer | 9 VAC 5-80-720 B | VOC, HAPs | 7500 gal |
| TNK32 | Storage tank, stabilizer | 9 VAC 5-80-720 B | VOC, HAPs | 7500 gal |
| TNK41 | Storage tank, hot oil expansion | 9 VAC 5-80-720 C | VOC, HAPs | 275 gal |
| TNK42 | Storage tank, kerosene | 9 VAC 5-80-720 B | VOC, HAPs | 275 gal |
| VAC1 | Large portable vacuum cleaners | 9 VAC 5-80-720 B | PM, PM-10, HAPs | N/A |
| CROTRT1 | Corona treaters, laminators | 9 VAC 5-80-720 B | Ozone (as VOC) | ~14MM yd vinyl/yr |
| RCYCL1 | Vinyl recycling systems | 9 VAC 5-80-720 B | PM, PM-10 | N/A |
| R & D –001 | Research and Development building (R & D is not the primary function of the facility but rather serves as a support function) | 9 VAC 5-80-720 A | N/A | N/A |
| PEMB1 | Post embosser | 9 VAC 5-80-720 B | VOC, HAPs | ~4.5MM yd vinyl/yr |
| LAM1 | Laminator 1 (including embossing and material mixing) | 9 VAC 5-80-720 B | VOC, HAPs | 16 $yd^2$ vinyl/hr average |

These emission units are presumed to be in compliance with all requirements of the federal Clean Air Act as may apply. Based on this presumption, no monitoring, recordkeeping, or reporting shall be required for these emission units in accordance with 9 VAC 5-80-110.

## XI. Permit Shield & Inapplicable Requirements

Compliance with the provisions of this permit shall be deemed compliance with all applicable requirements in effect as of the permit issuance date as identified in this permit. This permit shield covers only those applicable requirements covered by terms and conditions in this permit and the following requirements which have been specifically identified as being not applicable to this permitted facility:

| Citation | Title of Citation | Description of applicability |
|---|---|---|
| 40 CFR 60 Subpart Dc | Standards of Performance for Small Industrial-Commercial-Institutional Steam Generating Units | PolyOne's boilers were installed prior to June 9, 1989, and are therefore not subject to the standard. Also, the standard does not apply to process heaters, so the Calender 3 hot oil generator is not subject to it. |
| 40 CFR 60 Subpart FFF | Standards of Performance for Flexible Vinyl and Urethane Coating and Printing | Applies to rotogravure printing operations installed, modified, or reconstructed after January 18, 1983; PolyOne's rotogravure press was installed before the effective date and has not been modified or reconstructed so as to trigger applicability. |
| 40 CFR 60 Subpart Kb (other than recordkeeping) | Standards of Performance for Volatile Organic Liquid Storage Vessels | Only recordkeeping requirements apply (see Section IX of permit); tank capacities are below 20,000 gallons |

Nothing in this permit shield shall alter the provisions of § 303 of the federal Clean Air Act, including the authority of the administrator under that section, the liability of the owner for any violation of applicable requirements prior to or at the time of permit issuance, or the ability to obtain information by the administrator pursuant to § 114 of the federal Clean Air Act, (ii) the Board pursuant to § 10.1-1314 or § 10.1-1315 of the Virginia Air Pollution Control Law or (iii) the Department pursuant to § 10.1-1307.3 of the Virginia Air Pollution Control Law.
(9 VAC 5-80-140)

# XII. General Conditions

## A. Federal Enforceability

All terms and conditions in this permit are enforceable by the administrator and citizens under the federal Clean Air Act, except those that have been designated as only state-enforceable.
(9 VAC 5-80-110 N)

## B. Permit Expiration

This permit shall become invalid five years from the date of issuance. The permittee shall submit an application for renewal of this permit no earlier than 18 months and no later than six months prior to the date of expiration of this permit. Upon receipt of a complete and timely application for renewal, this source may continue to operate subject to final action by the DEQ on the renewal application.
(9 VAC 5-80-110 D and 9 VAC 5-80-80 F)

## C. Recordkeeping and Reporting

1. All records of monitoring information maintained to demonstrate compliance with the terms and conditions of this permit shall contain, where applicable, the following:

   a. The date, place as defined in the permit, and time of sampling or measurements.

   b. The date(s) analyses were performed.

   c. The company or entity that performed the analyses.

   d. The analytical techniques or methods used.

   e. The results of such analyses.

   f. The operating conditions existing at the time of sampling or measurement.

   (9 VAC 5-80-110 F)

2. Records of all monitoring data and support information shall be retained for at least five years from the date of the monitoring sample, measurement, report, or application. Support information includes all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.
   (9 VAC 5-80-110 F)

3. The permittee shall submit the results of monitoring contained in any applicable requirement to DEQ no later than **March 1** and **September 1** of

each calendar year. This report must be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

a. The time period included in the report. The time periods to be addressed are January 1 to June 30 and July 1 to December 31.

b. All deviations from permit requirements. For purposes of this permit, deviations include, but are not limited to:

(1) Exceedance of emissions limitations or operational restrictions;

(2) Excursions from control device operating parameter requirements, as documented by continuous emission monitoring, periodic monitoring, or compliance assurance monitoring which indicates an exceedance of emission limitations or operational restrictions; or,

(3) Failure to meet monitoring, recordkeeping, or reporting requirements contained in this permit.

(9 VAC 5-80-110 F)

## D. Annual Compliance Certification

Exclusive of any reporting required to assure compliance with the terms and conditions of this permit or as part of a schedule of compliance contained in this permit, the permittee shall submit to EPA and DEQ no later than **March 1** each calendar year a certification of compliance with all terms and conditions of this permit including emission limitation standards or work practices. The compliance certification shall comply with such additional requirements that may be specified pursuant to § 114(a)(3) and § 504(b) of the federal Clean Air Act. This certification shall be signed by a responsible official, consistent with 9 VAC 5-80-80 G, and shall include:

1. The time period included in the certification. The time period to be addressed is January 1 to December 31.

2. The identification of each term or condition of the permit that is the basis of the certification.

3. The compliance status.

4. Whether compliance was continuous or intermittent, and if not continuous, documentation of each incident of non-compliance.

5. Consistent with subsection 9 VAC 5-80-110 E, the method or methods used for determining the compliance status of the source at the time of certification and over the reporting period.

6. Such other facts as the permit may require to determine the compliance status of the source.

One copy of the annual compliance certification shall be sent to EPA at the following address:

Clean Air Act Title V Compliance Certification (3AP00)
U.S. Environmental Protection Agency, Region III
1650 Arch Street
Philadelphia, PA 19103-2029.

(9 VAC 5-80-110 K.5)

## E. Permit Deviation Reporting

The permittee shall notify the Director, Valley Region, within four daytime business hours of any deviations from permit requirements which may cause excess emissions for more than one hour, including those attributable to upset conditions as may be defined in this permit. In addition, within 14 days of the occurrence, the permittee shall provide a written statement explaining the problem, any corrective actions or preventive measures taken, and the estimated duration of the permit deviation. The occurrence should also be reported in the next semi-annual compliance monitoring report pursuant to General Condition XIII.C.3 of this permit.
(9 VAC 5-80-110 F.2 and 9 VAC 5-80-250)

## F. Failure/Malfunction Reporting

If, for any reason, the affected facilities or related air pollution control equipment fails or malfunctions and may cause excess emissions for more than one hour, the owner shall notify the Director, Valley Region, within four (4) daytime business hours of the occurrence. In addition, the owner shall provide a written statement, within 14 days, explaining the problem, corrective action taken, and the estimated duration of the breakdown/shutdown.
(9 VAC 5-80-250)

## G. Severability

The terms of this permit are severable. If any condition, requirement or portion of the permit is held invalid or inapplicable under any circumstance, such invalidity or inapplicability shall not affect or impair the remaining conditions, requirements, or portions of the permit.
(9 VAC 5-80-110 G.1)

## H. Duty to Comply

The permittee shall comply with all terms and conditions of this permit. Any permit noncompliance constitutes a violation of the federal Clean Air Act or the Virginia Air Pollution Control Law or both and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

(9 VAC 5-80-110 G.2)

## I. Need to Halt or Reduce Activity not a Defense

It shall not be a defense for a permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this permit.
(9 VAC 5-80-110 G.3)

## J. Permit Action for Cause

1. This permit may be modified, revoked, reopened, and reissued, or terminated for cause as specified in 9 VAC 5-80-110 L, 9 VAC 5-80-240 and 9 VAC 5-80-260. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.
(9 VAC 5-80-110 G.4)

2. Such changes that may require a permit modification and/or revisions include, but are not limited to, the following:

   a. Erection, fabrication, installation, addition, or modification of an emissions unit (which is the source, or part of it, which emits or has the potential to emit any regulated air pollutant), or of a source, where there is, or there is the potential of, a resulting emissions increase;

   b. Reconstruction or replacement of any emissions unit or components thereof such that its capital cost exceeds 50% of the cost of a whole new unit;

   c. Any change at a source which causes emission of a pollutant not previously emitted, an increase in emissions, production, throughput, hours of operation, or fuel use greater than those allowed by the permit, or by 9 VAC 5-80-11, unless such an increase is authorized by an emission cap; or any change at a source which causes an increase in emissions resulting from a reduction in control efficiency, unless such an increase is authorized by an emissions cap;

   d. Any reduction of the height of a stack or of a point of emissions, or the addition of any obstruction which hinders the vertical motion of exhaust;
   e. Any change at the source which affects its compliance with conditions in this permit, including conditions relating to monitoring, recordkeeping, and reporting;

   f. Addition of an emissions unit which qualifies as insignificant by emissions rate (9 VAC 5-80-720 B) or by size or production rate (9 VAC 5-80-720 C);

   g. Any change in insignificant activities, as defined by 9 VAC 5-80-90 D.1.a(1) and by 9 VAC 5-80-720 B and 9 VAC 5-80-720 C.

(9 VAC 5-80-110 G, 9 VAC 5-80-110 J, 9 VAC 5-80-240, and 9 VAC 5-80-260)

## K. Property Rights

The permit does not convey any property rights of any sort, or any exclusive privilege.
(9 VAC 5-80-110 G.5)

## L. Duty to Submit Information

1. The permittee shall furnish to the board, within a reasonable time, any information that the board may request in writing to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. Upon request, the permittee shall also furnish to the board copies of records required to be kept by the permit and, for information claimed to be confidential, the permittee shall furnish such records to the board along with a claim of confidentiality.
(9 VAC 5-80-110 G.6)

2. Any document (including reports) required in a permit condition to be submitted to the board shall contain a certification by a responsible official that meets the requirements of 9 VAC 5-80-80 G.
(9 VAC 5-80-110 K.1)

## M. Duty to Pay Permit Fees

The owner of any source for which a permit under 9 VAC 5-80-50 through 9 VAC 5-80-305 was issued shall pay permit fees consistent with the requirements of 9 VAC 5-80-310 through 9 VAC 5-80-355. The actual emissions covered by the permit program fees for the preceding year shall be calculated by the owner and submitted to the Department by April 15 of each year. The calculations and final amount of emissions are subject to verification and final determination by the Department.
(9 VAC 5-80-110 H and 9 VAC 5-80-340 C)

## N. Fugitive Dust Emission Standards

During the operation of a stationary source or any other building, structure, facility or installation, no owner or other person shall cause or permit any materials or property to be handled, transported, stored, used, constructed, altered, repaired, or demolished without taking reasonable precautions to prevent particulate matter from becoming airborne. Such reasonable precautions may include, but are not limited, to the following:

1. Use, where possible, of water or chemicals for control of dust in the demolition of existing buildings or structures, construction operations, the grading of roads, or the clearing of land;

2. Application of asphalt, oil, water, or suitable chemicals on dirt roads, materials

stockpiles, and other surfaces which may create airborne dust; the paving of roadways and the maintaining of them in a clean condition;

3. Installation and use of hoods, fans, and fabric filters to enclose and vent the handling of dusty material. Adequate containment methods shall be employed during sandblasting or other similar operations;

4. Open equipment for conveying or transporting material likely to create objectionable air pollution when airborne shall be covered or treated in an equally effective manner at all times when in motion; and

5. The prompt removal of spilled or traced dirt or other materials from paved streets and of dried sediments resulting from soil erosion.

(9 VAC 5-40-90 and 9 VAC 5-50-90)

## O. Startup, Shutdown, and Malfunction

At all times, including periods of startup, shutdown, soot blowing, and malfunction, owners shall, to the extent practicable, maintain and operate any affected facility including associated air pollution control equipment in a manner consistent with air pollution control practices for minimizing emissions. Determination of whether acceptable operating and maintenance procedures are being used will be based on information available to the board, which may include, but is not limited to, monitoring results, opacity observations, review of operating and maintenance procedures, and inspection of the source.
(9 VAC 5-50-20)

## P. Alternative Operating Scenarios

Contemporaneously with making a change between reasonably anticipated operating scenarios identified in this permit, the permittee shall record in a log at the permitted facility a record of the scenario under which it is operating. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions under each such operating scenario. The terms and conditions of each such alternative scenario shall meet all applicable requirements including the requirements of 9 VAC 5 Chapter 80 Article 1.
(9 VAC 5-80-110 J)

## Q. Inspection and Entry Requirements

The permittee shall allow DEQ, upon presentation of credentials and other documents as may be required by law, to perform the following:

1. Enter upon the premises where the source is located or emissions-related activity is conducted, or where records must be kept under the terms and conditions of the permit.

2. Have access to and copy, at reasonable times, any records that must be kept under the terms and conditions of the permit.

3. Inspect at reasonable times any facilities, equipment (including monitoring and air pollution control equipment), practices, or operations regulated or required under the permit.

4. Sample or monitor at reasonable times substances or parameters for the purpose of assuring compliance with the permit or applicable requirements.

(9 VAC 5-80-110 K.2)

## R. Reopening For Cause

The permit shall be reopened by the board if additional federal requirements become applicable to a major source with a remaining permit term of three or more years. Such a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which the permit is due to expire, unless the original permit or any of its terms and conditions has been extended pursuant to 9 VAC 5-80-80 F.

1. The permit shall be reopened if the board or the administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

2. The permit shall be reopened if the administrator or the board determines that the permit must be revised or revoked to assure compliance with the applicable requirements.

3. The permit shall not be reopened by the board if additional applicable state requirements become applicable to a major source prior to the expiration date established under 9 VAC 5-80-110 D.

(9 VAC 5-80-110 L)

## S. Permit Availability

Within five days after receipt of the issued permit, the permittee shall maintain the permit on the premises for which the permit has been issued and shall make the permit immediately available to DEQ upon request.
(9 VAC 5-80-150 E)

## T. Transfer of Permits

1. No person shall transfer a permit from one location to another, unless authorized under 9 VAC 5-80-130, or from one piece of equipment to another. (9 VAC 5-80-160)

2. In the case of a transfer of ownership of a stationary source, the new owner shall comply with any current permit issued to the previous owner. The new owner shall notify the board of the change in ownership within 30 days of the transfer and shall comply with the requirements of 9 VAC 5-80-200. (9 VAC 5-80-160)

3. In the case of a name change of a stationary source, the owner shall comply with any current permit issued under the previous source name. The owner shall notify the board of the change in source name within 30 days of the name change and shall comply with the requirements of 9 VAC 5-80-200. (9 VAC 5-80-160)

## U. Malfunction as an Affirmative Defense

1. A malfunction constitutes an affirmative defense to an action brought for noncompliance with technology-based emission limitations if the conditions of paragraph 2 are met.

2. The affirmative defense of malfunction shall be demonstrated by the permittee through properly signed, contemporaneous operating logs, or other relevant evidence that show the following:

   a. A malfunction occurred and the permittee can identify the cause or causes of the malfunction.

   b. The permitted facility was at the time being properly operated.

   c. During the period of the malfunction the permittee took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit.

   d. For malfunctions that occurred for one hour or more, the permittee submitted to the board by the deadlines described in **Failure/Malfunction Reporting** above, a notice and written statement containing a description of the malfunction, any steps taken to mitigate emissions, and corrective actions taken. The notice fulfills the requirement of 9 VAC 5-80-110 F.2. b to report promptly deviations from permit requirements.

3. In any enforcement proceeding, the permittee seeking to establish the occurrence of a malfunction shall have the burden of proof. The provisions of this section are in addition to any malfunction, emergency or upset provision contained in any requirement applicable to the source.

(9 VAC 5-80-250)

## V. Permit Revocation or Termination for Cause

A permit may be revoked or terminated prior to its expiration date if the owner knowingly makes material misstatements in the permit application or any amendments thereto or if the permittee violates, fails, neglects or refuses to comply

with the terms or conditions of the permit, any applicable requirements, or the applicable provisions of 9 VAC 5 Chapter 80 Article 1. The board may suspend, under such conditions and for such period of time as the board may prescribe, any permit for any of the grounds for revocation or termination or for any other violations of these regulations.
(9 VAC 5-80-260)

## W. Duty to Supplement or Correct Application

Any applicant who fails to submit any relevant facts or who has submitted incorrect information in a permit application shall, upon becoming aware of such failure or incorrect submittal, promptly submit such supplementary facts or corrections. An applicant shall also provide additional information as necessary to address any requirements that become applicable to the source after the date a complete application was filed but prior to release of a draft permit.
(9 VAC 5-80-80 E)

## X. Stratospheric Ozone Protection

If the permittee handles or emits one or more Class I or II substance subject to a standard promulgated under or established by Title VI (Stratospheric Ozone Protection) of the federal Clean Air Act, the permittee shall comply with all applicable sections of 40 CFR Part 82, Subparts A to F.
(40 CFR Part 82, Subparts A - F)

## Y. Accidental Release Prevention

If the permittee has more, or will have more than a threshold quantity of a regulated substance in a process, as determined under 40 CFR 68.115, the permittee shall comply with the requirements of 40 CFR Part 68.
(40 CFR Part 68)

## Z. Changes to Permits for Emissions Trading

No permit revision shall be required, under any federally approved economic incentives, marketable permits, emissions trading and other similar programs or processes for changes that are provided for in this permit.
(9 VAC 5-80-110 I)

## AA. Emissions Trading

Where the trading of emissions increases and decreases within the permitted facility is to occur within the context of this permit and to the extent that the regulations provide for trading such increases and decreases without a case-by-case approval of each emissions trade:

1. All terms and conditions required under 9 VAC 5-80-110 except subsection N shall be included to determine compliance.

2. The permit shield described in 9 VAC 5-80-140 shall extend to all terms and conditions that allow such increases and decreases in emissions.

3. The owner shall meet all applicable requirements including the requirements of 9 VAC 5-80-50 through 9 VAC 5-80-300.

(9 VAC 5-80-110 I)

# XIII. State-Only Enforceable Requirements

The following conditions, derived from 9 VAC 5 Chapter 50, Article 3 and contained in the January 16, 2001 minor NSR permit, apply to Paint Lines 1 – 4, the Paint Kitchen, and Laminators 3 and 4.

## A. Limitations

1. Emissions of volatile toxic compounds from Paint Lines 1, 2, and 3 (PNT1 – PNT3) and the Paint Kitchen (PNTKTN) shall not exceed the limitations specified below:

| | lbs/hr | tons/yr |
|---|---|---|
| MEK | 35.2 | 90.0 |
| MIBK | 35.2 | 90.0 |

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Compliance shall be demonstrated by mass balance as specified in Conditions XIII.B.1, 2 and 3.
(9 VAC 5-80-110 and Condition 38 of 1/16/01 Permit)

2. Emissions of volatile toxic compounds from Paint Line 4 (PNT4) shall not exceed the limitations specified below:

| | lbs/hr | tons/yr |
|---|---|---|
| MEK | 5.0 | 16.5 |
| MIBK | 4.4 | 19.2 |
| Toluene | 1.9 | 5.0 |
| Dimethylformamide | 7.4 | 32.0 |

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Compliance shall be demonstrated by mass balance as specified in Conditions XIII.B.1 and 3.
(9 VAC 5-80-110 and Condition 39 of 1/16/01 Permit)

3. Emissions of volatile toxic compounds from Laminator No. 3 (LAM3) shall not exceed the limitations specified below:

| | lbs/hr | tons/yr |
|---|---|---|

| | | |
|---|---|---|
| MEK | 62.6 | 90.0 |
| MIBK | 25.7 | 49.8 |
| Toluene | 75.4 | 90.5 |

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Compliance shall be demonstrated by mass balance as specified in Conditions XIII.B.1, 2, and 3.
(9 VAC 5-80-110 and Condition 40 of 1/16/01 Permit)

4. Emissions of volatile toxic compounds from Laminator No. 4 (LAM4) shall not exceed the limitations specified below:

| | lbs/hr | tons/yr |
|---|---|---|
| MEK | 62.6 | 90.0 |
| MIBK | 25.6 | 49.8 |
| Toluene | 75.4 | 90.5 |

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Compliance shall be demonstrated by mass balance as specified in Conditions XIII.B.1,2, and 3.
(9 VAC 5-80-110 and Condition 41 of 10/13/99 Permit)

## B. Monitoring

1. Annual emissions of each volatile toxic compound from Paint Lines 1, 2, 3, and 4 (PNT1 – PNT4) shall be calculated by mass balance as specified by the formula below:

$$V_{TEM} = (V_{TTPUT} - V_{TREC} - V_{TRET}) \times (1 - OCE)$$

$V_{TEM}$ = Annual emissions of the volatile toxic compound in tons.

$V_{TTPUT}$ = Annual throughput of the volatile toxic compound in tons.

$V_{TREC}$ = Annual amount of the volatile toxic compound recovered or disposed of off-site in tons.

$V_{TRET}$ = Annual amount of the volatile toxic compound retained in the products in tons.

OCE = overall control efficiency (the product of capture efficiency and control device destruction efficiency)

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. The details of the $V_{TREC}$ and the $V_{TRET}$ calculations shall be arranged with the Director, Valley Regional Office. The control device capture and destruction efficiencies used in the equation shall be the required efficiencies in Conditions IV.A.1 and IV.A.2 or

the efficiencies demonstrated in the most recent performance tests conducted according to 40 CFR 51, Appendix M, Method 204 (capture efficiency) or 40 CFR 60, Appendix A, Method 25 or 25A (destruction efficiency). If such testing indicates a capture or destruction efficiency below that required by Conditions IV.A.1 or IV.A.2, the lower efficiency shall be used to calculate emissions. The capture efficiency value used in calculating emissions for paint lines meeting the criteria for permanent total enclosure (Condition IV.A.6) shall be 100 percent. The toxic compound content of coating as supplied shall be based on certified manufacturers' formulation data. If manufacturers' formulation data report toxic compound content as a range, the maximum value in the range shall be used in calculating emissions.
(9 VAC 5-80-110 and Condition 42 of 1/16/01 Permit)

2. Annual emissions of each volatile toxic compound from Laminator 3 (LAM3), when such emissions are treated by the RTO, shall be calculated by mass balance as specified by the formula below:

$$V_{TEM} = (V_{TTPUT} - V_{TREC} - V_{TRET}) \times (1 - OCE)$$

$V_{TEM}$ = Annual emissions of the volatile toxic compound in tons.

$V_{TTPUT}$ = Annual throughput of the volatile toxic compound in tons.

$V_{TREC}$ = Annual amount of the volatile toxic compound recovered or disposed of off-site in tons.

$V_{TRET}$ = Annual amount of the volatile toxic compound retained in the products in tons.

OCE = overall control efficiency (the product of capture efficiency and control device destruction efficiency)

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. The details of the $V_{TREC}$ and the $V_{TRET}$ calculations shall be arranged with the Director, Valley Regional Office. The control device capture and destruction efficiencies used in the equation shall be the required efficiencies in Conditions IV.A.1 and IV.A.2 or the efficiencies demonstrated in the most recent performance tests conducted according to 40 CFR 51, Appendix M, Method 204 (capture efficiency) or 40 CFR 60, Appendix A, Method 25 or 25A (destruction efficiency). If such testing indicates a capture or destruction efficiency below that required by Conditions IV.A.1 or IV.A.2, the lower efficiency shall be used to calculate emissions. The capture efficiency value used in calculating emissions for paint lines meeting the criteria for permanent total enclosure (Condition IV.A.6) shall be 100 percent. The toxic compound content of each adhesive or coating as supplied shall be based on certified manufacturers' formulation data. If

manufacturers' formulation data report toxic compound content as a range, the maximum value in the range shall be used in calculating emissions.
(9 VAC 5-80-110 and Condition 42 of 1/16/01 Permit)

3. Annual emissions of each volatile toxic compound from Laminator 3 (LAM3) (when such emissions are not controlled) and Laminator 4 (LAM4) shall be calculated by mass

balance as specified by the formula below:

$$V_{TEM} = V_{TTPUT} - V_{TREC} - V_{TRET}$$

$V_{TEM}$ = Annual emissions of the volatile toxic compound in tons.

$V_{TTPUT}$ = Annual throughput of the volatile toxic compound in tons.

$V_{TREC}$ = Annual amount of the volatile toxic compound recovered or disposed of off-site in tons.

$V_{TRET}$ = Annual amount of the volatile toxic compound retained in the products in tons.

Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. The details of the $V_{TREC}$ and the $V_{TRET}$ calculations shall be arranged with the Director, Valley Regional Office. The toxic compound content of adhesive or coating as supplied shall be based on certified manufacturers' formulation data. If manufacturers' formulation data report toxic compound content as a range, the maximum value in the range shall be used in calculating emissions.
(9 VAC 5-80-110 and Condition 42 of 1/16/01 Permit)

4. Hourly emissions shall be calculated each month as a monthly average (monthly emissions divided by number of operating hours for each month).
(9 VAC 5-80-110)

## C. Recordkeeping

The permittee shall maintain records of all emission data and operating parameters necessary to demonstrate compliance with this permit. The content of and format of such records shall be arranged with the Director, Valley Region. In addition to material throughput records required by sections IV.C and V.C, the following records shall be maintained:

1. MSDS or VOC Data Sheet showing toxic content (pounds/gallon) of each coating and adhesive used;

2. Monthly and annual toxic compounds (in tons) retained in the recovered coatings and product(s) for Paint Lines 1, 2, 3, and 4 (PNT1 - PNT4). Annual mass of compounds retained shall be calculated monthly as the sum of each consecutive 12-month period;
3. Monthly and annual toxic compounds (in tons) retained in hazardous waste and laminator product(s) for Laminators 3 and 4 (LAM3 and LAM4). Annual amounts shall be calculated monthly as the sum of each consecutive 12-month period;

4. Hourly, monthly and annual emissions (in pounds or tons) of each toxic compound from Paint Lines 1, 2, 3, and 4 (PNT1 - PNT4), the Paint Kitchen (PNTKTN), and the Paint Laboratory (PNTLAB). Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Hourly emissions shall be calculated each month as a monthly average (monthly emissions divided by

number of operating hours for each month);

5. Hourly, monthly and annual emissions (in pounds or tons) of each toxic compound from Laminators 3 and 4 (LAM3 and LAM4). Annual emissions shall be calculated monthly as the sum of each consecutive 12-month period. Hourly emissions shall be calculated each month as a monthly average (monthly emissions divided by number of operating hours for each month);

These records shall be available on site for inspection by the DEQ and shall be current for the most recent five (5) years.
(9 VAC 5-80-110 and Condition 43 of 1/16/01 Permit)

## PAINT LINE 4 (PNT4) – Compliance Assurance Monitoring (CAM) Plan

| | Indicator 1 | Indicator 2 | Indicator 3 |
|---|---|---|---|
| **Indicator** | Combustion zone temperature | Work practice: periodic check of butterfly valve seal integrity | Periodic destruction efficiency testing |
| **Measurement approach** | The chamber temperature is monitored by a type-K-thermocouple. | Semi-annually, the seal integrity of the butterfly valves on the air lines leading to each of the regenerative beds shall be verified by authorized technicians to ensure no leakage. | Before 9/30/01, and every three years after that, testing according to reference method 25 or 25A (40 CFR 60, Appendix A) shall be conducted to verify destruction efficiency. |
| **Indicator range** | Greater than or equal to 1550 EF | The seals and/or associated ductwork shall be repaired or replaced as needed. | Greater than or equal to 99% VOC destruction efficiency. |
| **QIP Threshold** | No more than six excursions below the indicator range in any semi-annual reporting period. | N/A | N/A |
| **<u>Performance criteria</u>:**<br>**Data representativeness** | The sensor is installed in the incinerator chamber as an integral part of the incinerator design. The sensor measures temperatures from 32 E to 2300 EF and has a standard tolerance of +/- 4 EF.<br>The chart recorder range is 0 E to 2000 EF, with minor divisions of 20 EF. | Each valve and associated ductwork is inspected for any warping, splits, or other degradation that may affect the tightness of seal when valve is closed. | Testing shall be conducted during painting representative of normal operating conditions. |
| **Verification of operational status** | N/A | N/A | N/A |
| **QA/QC practices and criteria** | A second (redundant) thermocouple probe inserted into the incinerator chamber via a hand-held meter will verify accuracy of the thermocouple.<br>The accuracy check will be conducted at least annually. The acceptance criterion is +/- 30 EF. | The RTO manufacturer or other authorized technician familiar with the operating principles of regenerative thermal oxidation units shall conduct inspection. | Test procedures shall be as required by reference method 25 (40 CFR 60, Appendix A). A test protocol shall be submitted to and approved by the Director, Valley Region, prior to testing. |
| **Monitoring frequency and data collection procedure** | Measured and recorded continuously on a circular chart recorder. Temperature is measured at 15-second intervals to determine an hourly average. Three-hour averages shall be calculated hourly as the average of the previous three hours' average. | The valve seals shall be inspected and repaired (if needed) semi-annually. | Before 9/30/01 and at three-year intervals thereafter. |